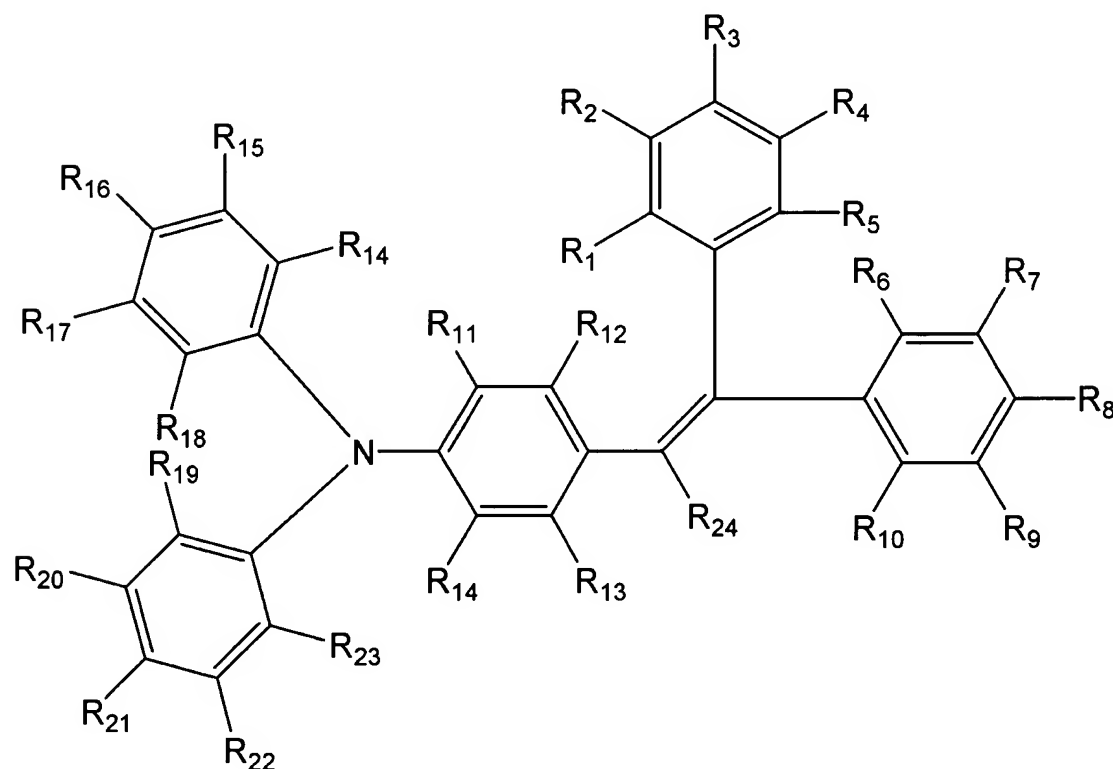


CLAIMS

What is claimed is:

1. An electrophotographic photoreceptor comprising:
a support;
an undercoating; and
a photosensitive layer,
wherein the undercoating includes a charge transport material which is soluble in an organic solvent and a binder resin.
2. The electrophotographic photoreceptor of claim 1, wherein the charge transport material in the undercoating is a compound represented by Formula 1:

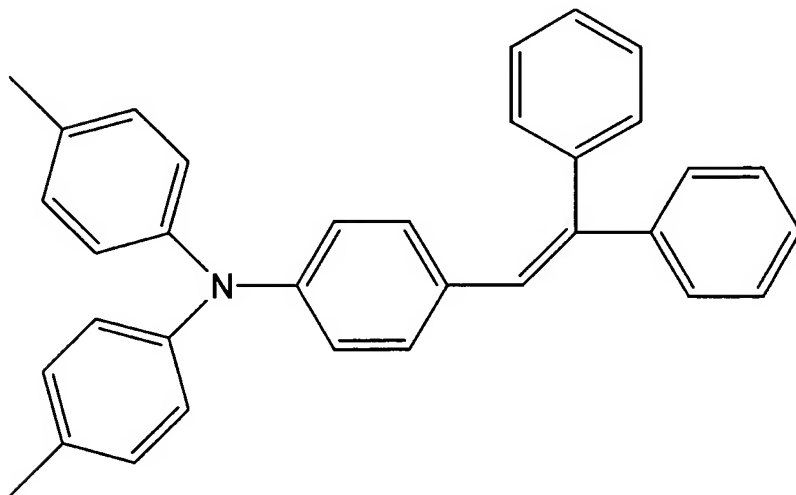
Formula 1



wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, R₁₆, R₁₇, R₁₈, R₁₉, R₂₀, R₂₁, R₂₂, R₂₃, and R₂₄ are independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, a carboxyl group, a cyano group, an amino group, a nitro group, a C₁-C₂₀ optionally substituted alkyl group, a C₆-C₃₀ optionally substituted aryl group, a C₁-C₂₀ optionally substituted halogenated alkyl group, a C₇-C₃₀ optionally substituted aralkyl group and a C₁-C₂₀ optionally substituted alkoxy group.

3. The electrophotographic photoreceptor of claim 2, wherein the compound represented by Formula 1 is a compound represented by Formula 2:

Formula 2



4. The electrophotographic photoreceptor of claim 1, wherein the solvent for dissolving the charge transport material in the undercoating is an alcoholic solvent, a halogenated solvent or a cosolvent thereof.

5. The electrophotographic photoreceptor of claim 4, wherein the alcohol-based solvent is 2-chloroethanol.

6. The electrophotographic photoreceptor of claim 4, wherein the halogenated solvent is one of 1,1,2-trichloroethane, chloroform, dichloromethane and dichloroethane.

7. The electrophotographic photoreceptor of claim 1, wherein the binder resin in the undercoating is at least one selected from the group consisting of polycarbonate, polyester, methacryl resin, acryl resin, polyvinyl chloride, polyvinylidene chloride, polystyrene, polyvinyl acetate, silicon resin, silicon-alkyd resin, styrene-alkyd resin, poly-N-vinylcarbazole, phenoxy resin, epoxy resin, polyvinyl butyral, polyvinyl acetal, polyvinyl formal, polysulfone, polyvinyl alcohol, ethyl cellulose, phenol resin, polyamide, carboxy-metal cellulose and polyurethane, and mixtures thereof.

8. The electrophotographic photoreceptor of claim 7, wherein the binder resin is a polyamide resin.

9. The electrophotographic photoreceptor of claim 1, wherein the thickness of the undercoating is in a range of 1 to 5 μm .

10. The electrophotographic photoreceptor of claim 1, wherein the photosensitive layer is a single layered structure in which a charge generating material, an electron transport material and a hole transport material are included.

11. The electrophotographic photoreceptor of claim 1, wherein the photosensitive layer is a laminated structure including a charge generating layer and a charge transport layer.

12. The electrophotographic photoreceptor of claim 10, wherein the charge generating material in the photosensitive layer is at least one selected from the group consisting of phthalocyanine pigment, azo pigment, quinone pigment, perylene pigment, indigo pigment, bisbenzimidazole pigment, quinacridone pigment, azulenium dye, squarylium dye, pyrylium dye, triarylmethane dye, cyanine dye, amorphous silicon, amorphous selenium, trigonal selenium, tellurium, selenium-tellurium alloy, cadmium sulfide, antimony sulfide, and zinc sulfide.

13. The electrophotographic photoreceptor of claim 10, wherein the hole transport material is at least one selected from the group consisting of pyrene compounds, carbazole compounds, hydrazone compounds, oxazole compounds, oxadiazole compounds, pyrazoline compounds, arylamine compound, arylmethane compounds, benzidine compounds, thiazole compounds and styryl compounds.

14. The electrophotographic photoreceptor of claim 10, wherein the electron transport material is at least one selected from the group consisting of electron attracting low-molecular weight compounds including benzoquinone compounds, cyanoethylene compounds, cyanoquinodimethane compounds, fluorenone compounds, xanthenes compounds, phenanthraquinone compounds, anhydrous phthalic acid compounds, thiopyrane compounds and diphenoquinone compounds, electron transporting polymer compounds and electron transporting pigments.

15. The electrophotographic photoreceptor of claim 10, wherein the photosensitive layer further comprises a binder resin.

16. The electrophotographic photoreceptor of claim 15, wherein the binder resin is at least one selected from the group consisting of polycarbonate, polyester, methacryl resin, acryl resin, polyvinyl chloride, polyvinylidene chloride, polystyrene, polyvinyl acetate, silicon resin, silicon-alkyd resin, styrene-alkyd resin, poly-N-vinylcarbazole, phenoxy resin, epoxy resin, polyvinyl butyral, polyvinyl acetal, polyvinyl formal, polysulfone, polyvinyl alcohol, ethyl cellulose, phenol resin, polyamide, carboxy-metal cellulose and polyurethane.

17. The electrophotographic photoreceptor of claim 1, wherein the thickness of the photosensitive layer is in a range of 5 to 50 μ m.

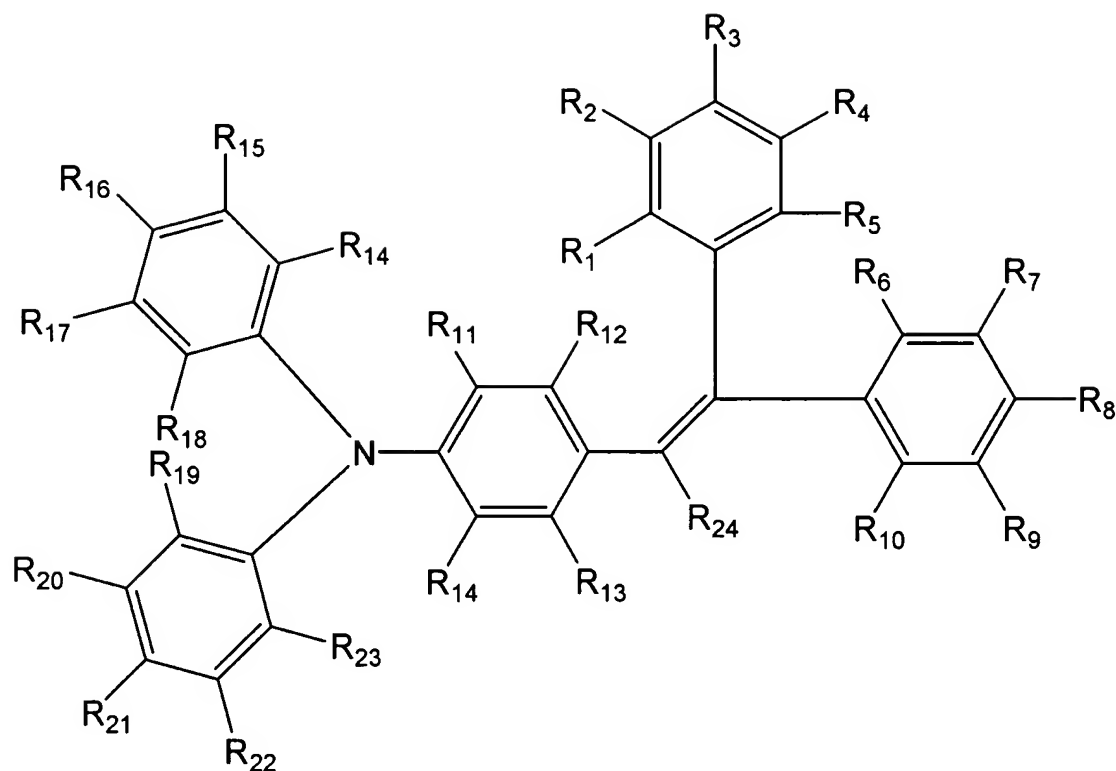
18. The electrophotographic photoreceptor of claim 1, wherein the photosensitive layer includes at least one additive selected from the group consisting of a plasticizer, a leveling agent, a dispersion- stabilizing agent, an antioxidant and a photo-stabilizing agent.

19. A liquid toner for electrophotographic development employing the photoreceptor claimed in claim 1.

20. An electrophotographic drum, comprising:
a drum; and
an electrophotographic photoreceptor disposed thereon, the electrophotographic photoreceptor comprising:
a support,
an undercoating, and
a photosensitive layer;
wherein the undercoating includes a charge transport material which is soluble in an organic solvent and a binder resin.

21. The electrophotographic drum of claim 20, wherein the charge transport material in the undercoating is a compound represented by Formula 1:

Formula 1



wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} , R_{13} , R_{14} , R_{15} , R_{16} , R_{17} , R_{18} , R_{19} , R_{20} , R_{21} , R_{22} , R_{23} , and R_{24} are independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, a carboxyl group, a cyano group, an amino group, a nitro group, a C_1 - C_{20} optionally substituted alkyl group, a C_6 - C_{30} optionally substituted aryl group, a C_1 - C_{20} optionally substituted halogenated alkyl group, a C_7 - C_{30} optionally substituted aralkyl group, and a C_1 - C_{20} optionally substituted alkoxy group,

wherein the electrophotographic drum is attachable to/detachable from an image forming apparatus.

22. An electrophotographic cartridge, comprising:

an electrophotographic photoreceptor disposed on a drum, the electrophotographic photoreceptor comprising:

- a support;
- an undercoating; and
- a photosensitive layer,

wherein the undercoating includes a charge transport material which is soluble in an

organic solvent and a binder resin; and

at least one of:

a charging device that charges the electrophotographic photoreceptor,

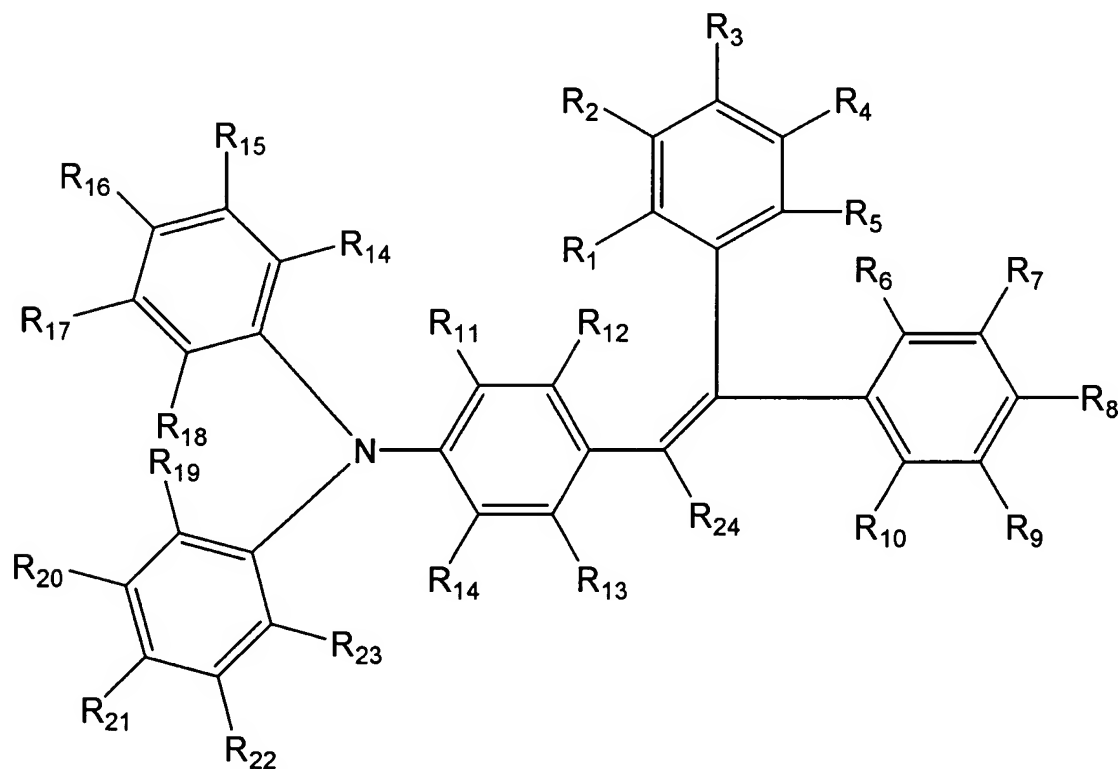
a developing unit which develops an electrostatic latent image formed on the electrophotographic photoreceptor, and

a cleaning device which cleans a surface of the electrophotographic photoreceptor;

wherein the electrophotographic cartridge is attachable to/detachable from an image forming apparatus.

23. The electrophotographic cartridge of claim 22, wherein the charge transport material in the undercoating is a compound represented by Formula 1:

Formula 1



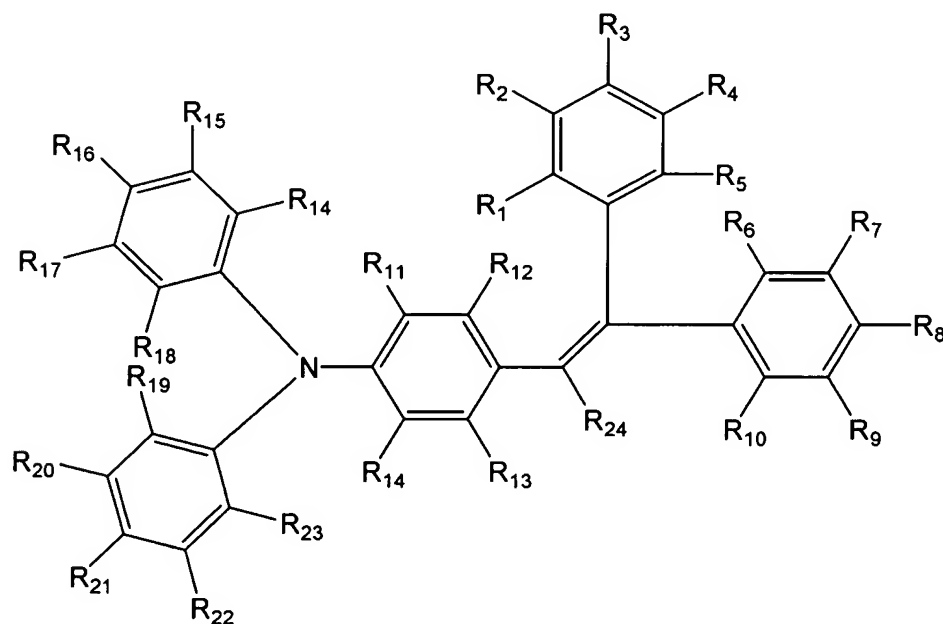
wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} , R_{13} , R_{14} , R_{15} , R_{16} , R_{17} , R_{18} , R_{19} , R_{20} , R_{21} , R_{22} , R_{23} , and R_{24} are independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, a carboxyl group, a cyano group, a amino group, a nitro group, a C_1 - C_{20} optionally substituted alkyl group, a C_6 - C_{30} optionally substituted aryl group, a C_1 - C_{20}

optionally substituted halogenated alkyl group, a C₇-C₃₀ optionally substituted aralkyl group, and a C₁-C₂₀ optionally substituted alkoxy group,

24. An image forming apparatus, comprising:
- a photoconductor unit having an electrophotographic photoreceptor, the electrophotographic photoconductor comprising:
 - a support,
 - an undercoating, and
 - a photosensitive layer,
 wherein the undercoating includes a charge transport material which is soluble in an organic solvent and a binder resin;
 - a charging device which charges the photoconductor unit;
 - an imagewise light irradiating device which irradiates the charged photoconductor unit with imagewise light to form an electrostatic latent image on the photoconductor unit;
 - a developing unit that develops the electrostatic latent image with a toner to form a toner image on the photoconductor unit; and
 - a transfer device which transfers the toner image onto a receiving material,

25. The image forming device of claim 24, wherein the charge transport material in the undercoating is a compound represented by Formula 1:

Formula 1



wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} , R_{13} , R_{14} , R_{15} , R_{16} , R_{17} , R_{18} , R_{19} , R_{20} , R_{21} , R_{22} , R_{23} , and R_{24} are independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, a carboxyl group, a cyano group, an amino group, a nitro group, a C_1 - C_{20} optionally substituted alkyl group, a C_6 - C_{30} optionally substituted aryl group, a C_1 - C_{20} optionally substituted halogenated alkyl group, a C_7 - C_{30} optionally substituted aralkyl group, and a C_1 - C_{20} optionally substituted alkoxy group.